

Dec. - Feb 1969-70

S A S M E E

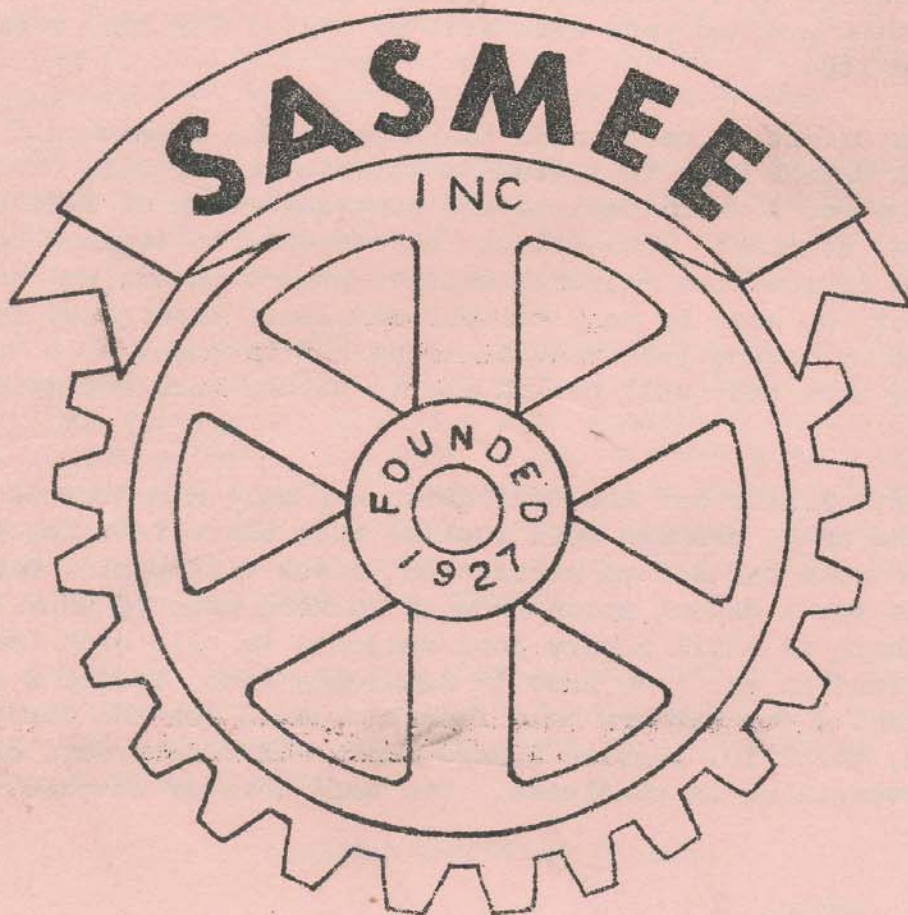
SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS

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BULLETIN

THE OFFICIAL JOURNAL OF THE SOUTH AUSTRALIAN SOCIETY

OF MODEL AND EXPERIMENTAL ENGINEERS.



EDITORIAL

All members extend our congratulations and best wishes for a happy future to Mr. & Mrs. Ralph Excell, recently married in New Zealand.

S.A.S.M.E.E. owes a lot to Ralph for his unremitting attention to our financial affairs spread over many years of devoted effort to further the progress of our Society, and it is with the greatest of pleasure that these words are written. We all look forward to a continuance of our happy association and trust that you and your wife will be spared for many years of married life.

An effort is being made to interest the Commonwealth Film Unit in SASMEE Park to include a segment in the film "This could be you", which depicts the Australian way of life at work, at home, at play. The film to be screened in England to portray to prospective migrants what to expect on arrival here will, no doubt, be seen by many British Modellers throughout the country and by seeing just what Adelaide has to offer to a Modeller we hope that many will be induced to settle here and join our ranks.

With Easter and the Convention now only a matter of about 18 weeks away, members must realise that there is a lot to be done to make our set-up attractive to our visitors. Despite appeals for a decent attendance at working bees by your President there is still a very poor response to help with the many jobs fronting us. We have 19 Saturdays left, deduct 4 for Field Days, and 4 for members only running, and 2 for the Christmas period, total 10, leaving a mere matter of 9 Saturdays only to have everything in readiness. The hard core of devoted workers

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EDITORIAL contd.

who do attend regularly cannot be expected to cope with numerous jobs demanding attention, so if you really have the Club's interest at heart you will heed this appeal and come along prepared to do your bit.

At the October General Meeting the Librarian made mention of members borrowing volumes and forgetting to return them. You are reminded that the period of loan is not to exceed 3 months, and cannot be borrowed again until another 3 months have elapsed. Also a fine of 20 cents per month per book will be imposed if not returned in time.

The Library is there for the use of all and it is unfair to others to retain books longer than the prescribed period. We earnestly seek your co-operation in this matter.

The recent visit to Eddington by a number of members was an enjoyable and hilarious success, and it is by these trips that the spirit of Brotherhood is fostered amongst the various Interstate Clubs. On another page you will read "all about it".

It is with regret that we are losing Murray Mitchell, who is transferring to Melbourne to take up an important position with Frank Carrig. Murray is a Past President for, I believe, 2 years, and played a big part in the reconstruction of SASMEE Park several years ago. I understand that he will retain Membership with us, but of course, cannot take an active part. We wish you all the best for the future Murray, and look forward to seeing you when time permits.

I wish to extend to all members and Interstate Societies the Compliments of the Season and a very Happy New Year, and may you all spend many pleasant hours of construction and operation of your model.

"A MERRY CHRISTMAS TO ALL"

C. Burden, Hon. Sec.

QUARTERLY AGENDA

GENERAL MEETINGS
1969/70

2nd Tuesday each month at 8.00 p.m.

9th DECEMBER
1969

Brains Trust. Strictly informal and all questions of a non-serious order.

1970

13th JANUARY

General Pow-wow.

10th FEBRUARY

Jack Mell will speak on Loco Maintenance.

INTERMEDIATE
MEETINGS

(Informal) 4th Tuesday each month at 8.00 p.m. 23rd December 1969, 27th January, 24th February 1970.

COMMITTEE
MEETINGS

1st Tuesday each month at 8.00 p.m. 2nd December 1969, January (No meeting), 3rd February 1970.

WORKING BEES

1st Saturday each month at 2.00 p.m. 6th December 1969, 3rd January, 7th February 1970.

PUBLIC FIELD DAYS

3rd Saturday each month at 2.00 p.m. 20th December 1969, 17th January, 21st February 1970.

FIELD DAYS CANTEN ROSTER

DECEMBER

L.T. MATTHEWS
J. THURMER

JANUARY

J. SPRY
B. SMYTH

FEBRUARY

I. CLARKE
M. AMBLER

IMPORTANT NOTE

IF UNABLE TO ATTEND AS PER ROSTER PLEASE
PHONE SECRETARY: PH.79-5292, SO THAT A
RESERVE CAN BE NOTIFIED IN TIME.

'Please remember to bring the MILK'

ROSTER FOR LOCKING UP ALL BUILDINGS AND GATES

1969

NOVEMBER 15th J. Wakefield
22nd C. Hill
29th A. Brabham

DECEMBER 6th B. Brown
13th T. England
20th P. Griscti
27th J. Welch

JANUARY 3rd D. Irving

1970

1970

JANUARY 10th J. Wakefield
17th C. Hill
24th A. Brabham

31st B. Brown
FEBRUARY 7th T. England
14th P. Griscti
21st J. Welch
28th D. Irving

S.A.S.M.E.E. CLUB NEWS.

It is nice to see Max Dunkley recovered from his recent illness and back with us again. Max has a fine reputation as a Modeller and is a prominent Club member of long standing.

Also Dennis Irving recently recovered from a spell in hospital. I hear that the nurses were sorry to see him leave. Dennis does a stirring job for the Society, besides holding the Office of Minute Secretary, he takes a keen interest in the grounds and regularly waters trees and lawns.

An unfortunate overlapping of window space at B.P. House caused the cancellation of an exhibit of member's Models. However, I understand that it will take place soon.

Work on the levelling and filling of the lane is proceeding nicely and should soon be open to traffic.

The new B.P. sign is well advanced and by the time this Bulletin reaches you, could be in position.

Another gentle reminder to those members in arrears with their annual subscriptions.

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S.A.S.M.E.E. CLUB NEWS cont.

The suggestion by the Secretary to have a Club Album has been adopted and the necessary purchase made. I have an interesting collection of photographs to go in it, but would like every member where possible to contribute a photo of interest of a model he has constructed, or one of the grounds, or possibly a group of earlier days.

With regret we have accepted Bill Perrin's resignation from S.A.S.M.E.E. Bill was a keen boat man and his fine models will leave a gap hard to fill.

Do not forget that all boilers for use at any Club track must be tested and passed by 2 testing Officers before being allowed to be used on any track or boat pond. The deadline was 1st November 1969.

I noticed that Norm's hydroplane seemed to be faster than usual at the September Field Day. He thinks that a slightly different method of attaching the radius line to the hull accounts for the improvement in speed.

Ron Collins latest boat attracted attention at the same Field Day. The steam plant was constructed entirely without the use of a lathe and reflects great credit on the builder.

S.A.S.M.E.E. CLUB NEWS cont.

The 1970 EASTER CONVENTION in ADELAIDE, arrangements are well in hand and we look forward to the coming event with great pleasure.

Do not forget the Christmas Barbecue after running has ended on the December track day. Bring your own chops, etc. This is an annual social event to which members bring their wives and families. No doubt Uncle Al and Archie, plus a film show will round off an exciting day for everybody.

29th NOVEMBER. We are giving a track day to assist the Y.M.C.A. Please give your support to this event by assisting with your boats and locos. Arrangements are the same as last year, we put on the show and the Y.M.C.A. handles the gate, canteen and keeps an eye on the children.

Please keep this date open.

4th - 7th DECEMBER. Also the Blackwood Festival of Flowers will take place. We have promised our support, and Insurance for all models displayed will be effected. Any queries regarding this event can be referred to Paul Griscti, who is associated with the Festival.

The annual Jumble Sale held at the September meeting was a great success. With Uncle Al as Auctioneer a considerable amount of useful gear was sold under the hammer, and although several bargains were gained by shrewd buyers, many other lines

enjoyed brisk bidding and were disposed of at a good price. No doubt they will be put to good use. With Uncle's innumerable jokes and patter the sale was enjoyed by all and the Club Fund was swelled by a tidy sum.

THE ANNUAL SHOW of WORK, held on the August meeting night, some outstanding examples of the modellers art were exhibited and great credit is due to those members who contributed to the success of the evening. It was obvious to the most in-experienced eye that many hours of careful and painstaking work were involved in the construction of the various eye taking examples of work displayed.

The following is a list of exhibitors and models :

RON COLLINS: Tilbury Ferry, $\frac{1}{2}$ " to the foot Steam propulsion, constructed without the use of a lathe.

M. TURNER: Partly constructed S.A.R. 523 Class loco in 5" gauge.

F. HERCUS: Hypo Cycloidal Steam Engine. This is a very fascinating piece of work and reflects great credit on the builder.

K. BRADFORD: C36 Class loco in 5" gauge.

A. BRADLEY: Caribou in 5" gauge, engine only.

J. WAKEFIELD: Caribou tender in 5" gauge

B. MULLER: M.E. Traction Engine in 2" scale, part constructed.

B. HOMAN: N.S.W. 18 Class loco in 5" gauge.

ANNUAL SHOW OF WORK (Contd.)

B. BROWN: 400 Class Garrett in 2½" gauge, very nearly completed.

P. GRISCTI: Allchin Traction Engine 3" to 1'.

B. SMYTHE: Simplex loco frames in 5" gauge

D. WORRELL: Netta loco in 5" gauge

L. MATTHEWS: Stuart Turner Beam Engine.

B. COLLINS: Boring head.

C. BURDEN: Stirling Single in 5" gauge.

It is obvious from the foregoing of the fast growing popularity in 5" gauge locos, and we can look forward to seeing some of these fine engines hauling the passengers in the near future.

Congratulations to all who exhibited.

Dave Worrell gave an informative talk on Injectors at the October meeting and made the construction of these little tea-sers seem easy, or did he?

NEW MEMBERS:

A welcome is extended to new members:

S.R. MALLWOOD, interested in Locos.

A.J. NICOLSON, also interested in Locos.

We wish you many pleasant hours of modelling and hope that you will join in our activities as much as possible.

The fourth Saturday in September was very pleasantly spent by a number of members as an open running day. After testing of two 5" Britannia boilers had been completed, running was commenced in earnest and with no small boys to contend with a really enjoyable afternoon was spent. Members are invited to attend these off Saturday runs and enjoy real club life without the distractions of Field Days. Those present are as follows :

J. Barkes, A. Bradley, T. England, A. Boreham, R. Skewes, D. Worrell, M. Turner, J. Welch, R. Collins, O. Thomas, A. Brabham, D. Irving, G. Calvert, J. Wakefield, L. Peckham, H. Pearce, P. Griscti, C. Burden.

Apart from locos there were several boats making good use of the pond.

Why not come along and see for yourself.

We have received copies of Interstate Bulletins and News Letters. These are displayed on the notice board for your perusal.

S.A.S.M.E.E. MEMBERS VISIT TO EDDINGTON, OCTOBER 8 Hours Day W/E

Dudley Smith had extended an invitation to SASMEE members to visit the Eddington Club, whereby 12 members decided to make the trip and so renew past acquaintances. To all of us the time of departure could not come quickly enough, but eventually the last few days saw much activity at John Wakefield's place, in packing our locos, riding trucks, etc., into John's utility, and Friday morning saw chef Al Frankham packing as much supplies of food into the caravan as possible, but alas it would not take all that had been purchased, incidentally, I heard

that Tom the Cheap had his biggest trading day on that particular Friday, so Len Peckham came to the rescue - fortunately he was travelling light and had sufficient room.

Friday 1.00 p.m. was the all clear signal for John Wakefield and John Mell to open the throttle, followed an hour or so later by Morry Turner, Max Dunkley and of course, chef Al, with Len Peckham taking up the rear. How pleasant it was slipping through the Adelaide Hills on a very pleasant day. We made Bordertown our first refuelling stop for both cars and crews, then on to Nhill, our first planned overnight stay in the caravan park, what a start to a wonderful time. After tea Morry and Alan decided to practice their musical talents, it had been some years since Morry had played his banjo, but after some perseverance recognisable tunes came forth and with the lusty voices of the others a merry night was enjoyed.

Saturday 6.00 a.m. the camp rustles to the tune of clatter bang and sizzle, as chef Al prepared out breakfast. John Mell was surprised that we were all together as he was sure that "train come thru centa o van during nite", however we passified him and he enjoyed his eats. I shouldn't report the number of hands around the washing up bowl, but without a doubt volunteers were all the crew. 7.30 a.m. we moved convoy fashion through Nhill heading for Dudley's. The run through the Wimeria district was a sight for the farmers, with wheatlands stretching asfar as the eye could see, and what crops! St. Arnaud was our first stop for fuel, a run of some 113 miles, here we purchased some final supplies of milk, etc., and ice which resulted in Peckham being left behind. However, as John and Morry had pointed out the road, it would be O.K., or was it? After pushing my bus along for some miles I began to wonder as they were nowhere in sight, so I slowed down and travelled leisurely to Eddington, only to find John Wakefield in and just ahead by a buffer was Morry. John had literally flown that last lap and Morry had taken a wrong turn, whilst I had after all been on the right track. We arrived just after 11.30 to a hearty hail from Dudley and the flag fluttering in the wind.

Kevin Coudrey, one of the Eddington members, had arrived early that morning and had helped Dud to get things ready, and it was not long before Al was again showing his culinary art with lunch, oh food! You name it, we had it. About 2.00p.m. in rolled Murray Mitchell and Bill Gillespie from Whyalla; followed shortly after by Chas Hill, Tom England, John Welch, and new member Geoff McFarlane. Now we were one as has been said (we of SASMEE). No time was lost in getting steam up and it was not long before Morry's, Chas', and Tom's Britannias were lapping the track. The surprise to Morry was Duds neice Felicity, when she offered to take over his loco, almost for good, and showed she could really handle it. Just a piece of cake were Dud's words, and haven't we heard that before!

Later in the afternoon Eddington members began arriving, Clary and Vera Hall, and Cliff Kirby and family joined us to camp for the weekend. Many identities soon showed up, the more familiar ones being Bill Troughton, Stan McKeon, Jim Parnell, Jack Cousins who incidentally has joined our club as a country member, Laurie Jordan and Mrs. Jordan, who although has passed her three score years and ten, thoroughly enjoys the gatherings. Dr. Orr, Frank Carrig, Ian Stuart from Maryborough made himself known and brought along his Simplex loco chassis and the usual chatter was heard.

Saturday night, we were feeling hungry or so the cook said, and once again a supply of food was put forth, chops, sausages, potatoes, onions, tomatoes, bacon, preserved fruit and cream, then to the fire and song. What a night, Alan with his mouth organs, Morry's banjo, Dudley's piano accordion, and yes, theres always a surprise, Jack Mell on the drums. As Dud said, what a club you blokes have got, not only engineers but B..... good musicians as well. We wound up about 10.30 p.m. built up the fire and retired at least for a while. Frankham and Peckham had taken over the Lodonville Miniature Railway Station for their sleeping quarters, and thought that the local passenger train was due at 1.30a.m. and duly kept the fire burning for an early morn cuppa, first Peckham, then Frankham,

Dunkley, Hill, England, Mell, and McFarlane, however, all settled down and Sunday morn was the beginning of a new day.

The day was perfect and crowd rolled up from where seemed a mystery, but it grew to some 50 cars and all enjoyed the picnic day, many locos were in steam and plenty of engine-mans chatter was everywhere. Ian Stewart from Echuca came down, and Ern Clark from Bendigo, the ladies put on afternoon tea, and the evening meal was most appreciated. The SASMEE Trio provided musical sing songs, and Alan and Archie turned up to entertain the kids, and so another day was struck off our visit.

Before proceeding I have a note that I must mention the wonderful Cowley Pasties, which Mrs. England sent along for Tom and his travelling companions. They tell me that they were terrific, and in fact could eat them any time she wished to buy them. Thanks Mrs. England from Charles Hill and associates.

However, all was not so peaceful as during the night when I was attending the fire with help from Jack Mell, the Lodonville ghost appeared and frightened the life out of me while searching for some logs to keep the stove in during the night.

Monday morning the camp was a bustle as we had to get packed up to visit P. & N's factory in Maryborough. We all hopped in and by 8.30 we were getting ready to move off, except Chas Hill. It appears that poor Charlie was so disappointed at having to pack up that when he eventually finished tying up his gear for his loco with flex and went to pick it up, he discovered that he had wired the lot to a section of steaming up track and had difficulty in trying to shift track and all.

Before departing we presented Mrs. Smith with a box of chocs, then Dudley led the way to Maryborough, we arrived about 9.30, when Dud and John Wakefield made the necessary arrangements. Mr. George Holland, with an assistant were to show us around. George is the chief maintenance engineer and knew well of SASMEE through relations with Claude Miller and of course

Dudley. We were divided into two groups and we all had a most interesting tour of the methods of making drills from 12 thou to 4" diameter, along with taps, dies, holders, hacksaw blades, and many other items. This was truly well appreciated and topped off a most wonderful weekend.

We departed about mid-day and motored a short distance out of Maryborough and set up for lunch on the site of many gold diggings, and naturally inspected a few holes, but to no avail. We packed up and headed for Nhill where we once again recalled last moments of a fine visit and wonderful fellowship of the model engineer.

STORY OF A LOCOMOTIVE by Bert Kirby - Part 2

The next important development in locomotive construction was brought about in 1829 by the building of the Liverpool and Manchester Railway, the first of many lines destined to play a great part in the development of Lancashires cotton trade. At that period the design of steam locomotives had made but little progress, and the directors of the new railway were uncertain whether to employ locomotive engines or to make use of stationary engines by the side of the track which would haul the trains by means of ropes.

A committee, Messrs. J. Rastrick and James Walker, was appointed to visit such railways as then existed, to report on both systems of haulage. The report, presented on March 9, 1829, found in favour of stationary engines and ropes but some of the Liverpool and Manchester railway directors, with George Stephenson, then the company's engineer, strongly urged the use of the steam locomotive. The following month, therefore, the railway company offered a prize of 500 for the best engine of improved design which would conform to their requirements.

An important condition of this competition was that each

locomotive should consume its own smoke and haul continuously a load equal to 3 times its own weight at an average speed of not less than 10 miles an hour. It was decided that the trials should be held on a level stretch of line at Rainhill, 9 miles from Liverpool. The judges were Messrs. J. Rastrick, N. Wood and J. Kennedy. The length of the course was $1\frac{1}{2}$ miles, with an additional 220 yards at each end for starting and stopping. Each locomotive was required to haul its load for 10 double trips on the course, equal to a journey between Manchester and Liverpool. The engine was then to be provided with a fresh supply of fuel and water and then a further 10 trips made, equivalent to the return journey. The trials were held between the 8th and 14th October 1829, the competing engines having been delivered at Liverpool on 1st October.

The locomotives entered for the trials were the "Rocket", by George and Robert Stephenson, the "Novelty" by John Braithwaite and John Ericsson, Timothy Hackworths "Sans Pareil", and the "Perseverance" by Timothy Burstall. T. Brandreth entered his "Cycloped", a carriage propelled by means of a horse on a treadmill.

The "Rocket", designed by George Stephenson and built by his son Robert, ran at Rainhill on 8th October 1829 hauling $12\frac{3}{4}$ tons (the engine weighed $4\frac{1}{2}$ tons) at an average speed of 13.8 miles per hour, attaining for one trip a maximum speed over 24 miles per hour. Without any load, however, the engine ran at a speed of 29 miles per hour. The "Rocket" was, in fact, the only locomotive to fulfill all conditions of the competition, and was awarded the prize of 500.

The "Rocket" is now in the Science Museum at South Kensington, London, but some of its details have been altered since the Rainhill trials. The cylinders for example, were originally set at an angle of 35° with the horizontal, but were altered in 1831 to an inclination of 8° . Alterations were also made to the firebox, and a smoke box was added at a later date. The "Rocket" ran on 4 wheels, the front pair

being driven by a pair of cylinders, 8" dia. with a stroke of 17". The cylinders were mounted on iron plates bolted to the boiler shell.

The slide valves admitting steam to the cylinder were operated through a system of levers, by a pair of eccentrics on the driving axle, one being set for forward running, the other for reverse. Either of these eccentrics could be brought into operation as required by means of a foot pedal, the valve rods being worked by hand during reversing. The "Rocket" had an iron boiler 40" dia. by 6' long, fitted with 25 copper fire tubes each 3" dia. The boiler worked at a pressure of 50 lbs. per sq. inch, the tender consisted of a 4 wheel truck to carry the fuel, water being carried in a large wooden barrel mounted above it.

The "Novelty" was tried on 10th and 14th October, but mechanical defects developed on both occasions so that the engine was unable to complete the journey. This engine had 4 wheels each 4'-2" dia., driven by a pair of vertical cylinders, 6" dia. by 12" stroke. The boiler was of unusual design having a vertical barrel containing the firebox, attached to a horizontal barrel 13" dia. and 10' long, in which was placed a flue tube 31' in length leading from the firebox to the chimney. The flue was arranged in a 3 limb coil. A mechanical blower was provided for the coke fire, and the exhaust steam escaped directly into the air. The locomotive weight was 3.05 tons empty, and with a load of 7.7 tons, the maximum speed of the engine at Rainhill was just over 16 miles an hour. With a light load the "Novelty" attained a speed of 31 miles per hour. A full size reproduction of the "Novelty" incorporating the wheels and one cylinder of the original, may be seen at the South Kensington Science Museum.

The "Sans Pareil" was tried on 13th October 1829, although the engine was disqualified from earning the prize.

on account of its weight 4.77 tons. It should have been carried, according to the competition rules on 6 wheels instead of the 4 provided. The engine ran for $27\frac{1}{2}$ miles at an average speed of 13.95 miles per hour with a load of 14.32 tons, the maximum speed for one trip was $17\frac{1}{2}$ miles per hour, but the failure of the boiler feed pump put an end to the trial. The two cylinders were 7" dia. by 18" stroke driving on 4 coupled wheels $4\frac{1}{2}$ " dia.. A tender was provided similar to that of the Rocket. The original "Sans Pareil" is also to be seen at South Kensington, and apart from the trial at Rainhill, has a most interesting history.

The Liverpool and Manchester Railway Company bought the locomotive after the trials, and in 1832 it was transferred to the Bolton and Leigh Railway. In 1837 the present cylinders larger than the originals, were fitted, the wooden spoked wheels being replaced by cast iron wheels. In 1844 the locomotive was removed to Coppull Colliery near Chorley, and adapted for use as a stationary engine to drive pumping and winding machinery, where it worked till 1863. It was then re-erected as a locomotive and presented to the Science Museum.

The "Perseverance" and the horse propelled "Cycloped" attained speeds of 6 miles an hour only, and were consequently withdrawn from the competition.

The success of George Stephenson's locomotive, which had so lasting an influence on engine design and railway development was largely due to its tubular boiler, the use of which was suggested by Henry Booth, the Secretary of the Liverpool and Manchester Railway. The use of fire tubes to convey the heat of the furnace from the boiler firebox through the water to a smoke box, has now been standard locomotive practise over a century. Steam locomotive boilers have been increased enormously in size, and details of design have been perfected.

The giant locomotives in use all over the world today, however, still employ the same basic principals in generating steam as those used in the design of the "Rocket".

BIOGRAPHIES:

Richard Trevithick 1771 - 1833 has been described as the father of the locomotive. Trevithick advocated the use of the high pressure steam and his experiments paved the way for all subsequent developments in railway engines.

George Stephenson 1781 - 1848 and his son Robert Stephenson 1803 - 1859 whose great work in the development of the steam locomotive and the railway laid the foundation of rail transport systems all over the world.

EDITED BY: C. Burden,
Hon. Sec. PH.79-5292

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